

1 Pub D2 3. (Amended) A method of bonding [solder] balls of solder to  
2 bond pads on a substrate comprising:

3 placing at least portions of a plurality of [solder] balls of solder  
4 within a frame and in registered alignment with individual bond pads  
5 over a substrate; and

6 while the ball portions are within the frame, exposing the balls to  
7 bonding conditions effective to bond the balls with their associated bond  
8 pads.

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10 Cancel claims 4 and 5.

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12 5 (Amended) The method of [bonding solder balls of] claim  
13 3, wherein [said] exposing comprises laser bonding the balls with their  
14 associated bond pads.

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16 Cancel claim 7.

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18 4 8 (Amended) The method [of bonding solder balls] of claim  
19 3, wherein [said] exposing comprises laser bonding the balls with their  
20 associated bond pads by fixing the position of a laser beam and moving  
21 the frame relative to the laser beam from ball-to-ball.

22  
23 Cancel claims 9 and 10.

1 11. (Amended) The method of [bonding solder balls of] claim

2 3, wherein:

3 4 [said] placing comprises placing individual [solder] balls within  
4 individual holes within the frame; and

5 [said] exposing [of the balls] comprises reflowing the [solder] balls  
6 while the balls are within their individual holes, and further comprising,  
7 after [said] reflowing, removing the frame from around the reflowed  
8 balls.

9  
10 12. (Amended) The method of [bonding solder balls of] claim 3,  
11 wherein [said] placing comprises placing [said] ~~the~~ ball portions on  
12 fluxless bond pad surfaces.

13  
14 13. (Amended) A method of bonding [solder] balls of solder to  
15 bond pads on a substrate comprising:

16 providing a frame having a plurality of holes sized to receive  
17 individual solder balls;

18 delivering individual balls of solder into the holes from over the  
19 frame;

20 placing the balls into registered alignment, while the balls are in  
21 the holes, with a plurality of individual bond pads over a substrate; and  
22 bonding the balls with their individual associated bond pads.  
23

1 Cancel claims 14-19.

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3 ~~20.~~ <sup>9</sup> (Amended) The method of claim ~~13~~ <sup>8</sup>, wherein [the] bonding  
4 [of the balls] comprises laser bonding the balls with their individual  
5 associated bond pads.  
6

7 Cancel claim 21.

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9 ~~22.~~ <sup>10</sup> (Amended) The method of claim ~~13~~ <sup>8</sup>, wherein [the] bonding  
10 [of the balls] comprises laser bonding the balls with their individual  
11 associated bond pads by fixing the position of a laser beam and moving  
12 the frame relative to the laser beam from ball-to-ball to effectuate the  
13 bonding.  
14

15 Cancel claim 25.  
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27. (Amended) A method of bonding a [solder] ball of solder  
to a bond pad on a substrate comprising:

providing a frame having a hole;

providing a [solder] ball of solder having an outer surface;

retaining the [solder] ball of solder within the hole in an ambient  
processing environment which is generally uniform over the entirety of  
the ball's outer surface; and

while the [solder] ball of solder is within the hole, bonding the  
[solder] ball of solder with an associated bond pad on a substrate.

Cancel claim 28.

30. (Amended) The method of claim 27, wherein [the] bonding  
[of the solder ball] comprises laser bonding [said] the ball.

31. (Amended) A method of bonding [solder] balls of solder to bond pads on a substrate comprising:

providing a surface having a plurality of holes therein;

providing a plurality of [solder] balls of solder over the surface;

depositing some of the [solder] balls of solder into at least some of the holes; and

bonding the [solder] balls of solder which were deposited into the holes to individual associated bond pads positioned on a substrate proximate the holes.

Cancel claims 32-35.

36. (Amended) The method of claim 31, wherein [the] bonding [of the balls] comprises laser-bonding each ball to (an individual bond pad.)

37. (Amended) The method of claim 31, wherein [the] bonding [of the balls] comprises laser-bonding each ball to (an individual bond pad) by fixing the position of a laser beam and moving each ball into the path of the laser beam.

Cancel claims 38-40.

41. (Amended) [The method of claim 39] A method of bonding  
balls of solder to bond pads on a substrate comprising:  
providing a surface having a plurality of holes therein;  
providing more balls of solder than there are holes over the  
surface;  
moving the plurality of balls and the surface relative to one  
another effective to deposit one ball of solder into each hole;  
removing excess balls of solder from over the surface; and  
bonding the balls which were deposited into the holes to individual  
bond pads positioned on a substrate proximate the holes, wherein [the]  
bonding [of the balls] comprises laser bonding the balls by moving each  
ball into the path of a laser beam.